

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

**APPLICANT:** Timothy G. Offerle et al.  
**SERIAL NO.:** 10/708,671  
**FILED:** March 18, 2004  
**FOR:** METHOD AND APPARATUS FOR CONTROLLING BRAKE-  
STEER IN AN AUTOMOTIVE VEHICLE IN REVERSE  
**EXAMINER:** Tuan C. To  
**GROUP ART UNIT:** 3663  
**ATTORNEY DOCKET:** 81095823 (36190-67)  
**CUSTOMER NO.:** 28549

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October 17, 2007

**APPEAL BRIEF**

This brief is submitted in support of the Notice of Appeal of the Final Rejection filed  
August 22, 2007.

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**I. REAL PARTY IN INTEREST**

The real party in interest in this matter is Ford Global Technologies, LLC, which is a wholly owned subsidiary of Ford Motor Company, both of Dearborn, Michigan (hereinafter “Ford”).

**II. RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences known to appellants, the appellants’ legal representative, or the assignee which will directly affect or be directly affected by or have a bearing on the Board’s decision in this pending appeal.

**III. STATUS OF CLAIMS**

All of pending Claims 27-32 are on appeal.

Claims 1 and 15-26 were previously cancelled.

Claims 2-14 and 33-35 have been withdrawn from consideration.

Only Claim 27 is in independent form.

**IV. STATUS OF AMENDMENTS**

No Amendments were filed after the Final Rejection.

**V. SUMMARY OF CLAIMED SUBJECT MATTER**

As set forth in Claim 27, the sole independent claim currently under consideration, vehicle 10 has a shift lever 62, having a reverse position generating a reverse position signal. A controller 26 is coupled to shift lever 62. Controller 26 applies brake steer in response to the

reverse position signal. The reader is directed to Figures 2-3 and 11-15, as well as Paragraph 66 at Lines 1-5, Paragraph 101 at Lines 1-12, and Paragraph 113 at Lines 1-11.

## **VI. GROUND S OF REJECTION TO BE REVIEWED ON APPEAL**

The rejection of Claims 27 and 32 under 35 U.S.C. §102(a) as being anticipated by Tanaka et al. (U.S. Publication 2003/0156045).

The rejection of Claim 28 pursuant to 35 U.S.C. §103(a) as being unpatentable over Tanaka in view of Spillane (U.S. Publication 2003/00200016).

The rejection of Claims 29-31 under 35 U.S.C. §103(a) as being unpatentable over Tanaka in view of Ritz (U.S. Publication 2002/00060103).

## **VII. ARGUMENT**

### **A. CLAIMS ARGUED TOGETHER**

Claims 27 and 32 are not properly rejected under 35 U.S.C. §102(a) as being anticipated by Tanaka.

The Examiner states that Tanaka includes a parking assist having a controller coupled to a shift lever, with the controller applying automatic steering and automatic braking when the parking assist control is on. The Examiner cites Tanaka at Page 6, Paragraph 72, and at Paragraph 69, Lines 1-6.

The Examiner's rejection based upon Tanaka cannot be sustained. In the cited material, Tanaka describes automatic braking means:

“provided such that the driver can execute the parking operation without executing a vehicle speed adjustment operation.”  
(Emphasis Added)

In other words, Tanaka teaches nothing regarding the use of brake steering during a reverse maneuver. Rather, Tanaka teaches speed control, via the vehicle's service brakes during a reverse maneuver. Accordingly, Tanaka cannot comprise a colorable basis for the rejection of any of Applicants' claims pursuant to 35 U.S.C. § 102(a).

**B. THE REJECTION OF CLAIM 28 UNDER 35 U.S.C. §103 (a) OVER TANAKA AND SPILLANE IS NOT SUSTAINABLE**

The Examiner states that Tanaka does not disclose a transfer case having a transfer case mode and, for this, the Examiner looks to Spillane. However, Spillane cannot overcome the deficiencies noted above in connection with the rejection of Appellants' claims based upon Tanaka alone, because Spillane teaches nothing regarding the use of brake steering while a vehicle is in a reverse operating mode. As a result, Claim 28 is not properly rejectable over Tanaka in view of Spillane and should be passed to issue.

**C. CLAIMS 29-31 ARE NOT PROPERLY REJECTED UNDER 35 U.S.C. §103(a) AS BEING UNPATENTABLE OVER TANAKA IN VIEW OF RITZ**

The Examiner uses Ritz for a teaching of activating steering-supporting braking torque (brake steer) on the wheel inside of a curve as the brake is applied. However, the Examiner's reliance upon Ritz is misguided because at Paragraph 41, Ritz teaches that:

“It could also be useful to deactivate single-sided steering-supporting brake operation when reversing.”

In other words, Ritz teaches the deactivation of brake steering during reverse operation. Accordingly, no one would be motivated, or taught to combine Ritz with Tanaka.

Regardless of the standard for either combining references or adopting teachings as being common knowledge, the result of the Examiner's construct could not function in the claimed manner because Ritz and Tanaka simply leave no room for brake steering during reverse

operation. As a result, each of Claims 27-31 is allowable and should be passed to issue. This conclusion is abundantly clear regarding individual claims in addition to Claims 27 and 28. For example, in Claim 29, brake steer is described as including a first brake and a second brake to reduce the turning radius. In contrast, Ritz teaches deactivation of brake steering when reversing. Also, in Claim 30, Appellants' controller is described as being programmed to apply at least one brake at a first wheel to reduce the turning radius during reverse operation and, in Claim 31, the controller is described as applying brake steer to increase drive torque of a second wheel relative to a first wheel during reversing operation. And, finally, at Claim 32, the vehicle is further described as having a steering wheel angle sensor generating a steering wheel angle, with the controller being programmed to apply brake steer in response to reverse directional signal and the steering wheel angle signal. Essentially, the claimed invention deals with brake steering during reverse operation of the vehicle. With Appellants' system, this mode of operation is triggered immediately by sensing that the gearshift in "reverse". Because Ritz deals with dynamic stability control, Ritz's device takes no specific action upon the mere selection of a transmission range.

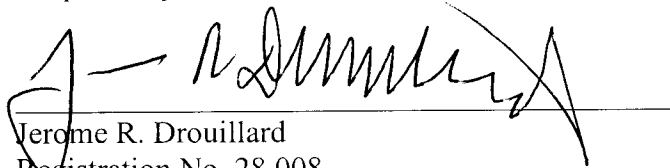
In sum, the combination of Tanaka and Ritz proffered by the Examiner cannot survive careful scrutiny for the simple reason that Tanaka, for all the Examiner's assertions, does not teach the use of brake steer, and Ritz teaches away from the use of brake steer while reversing. Accordingly, each of the claims remaining in this case is allowable over the Examiner's rejection.

**VIII. CONCLUSION**

For the foregoing reasons, Appellant respectfully requests that the Board direct the Examiner in charge of this case to withdraw the rejection of Claims 27-32.

The Patent Office is authorized to charge any fee deficiency or refund any excess to Deposit Account No. 06-1510.

Respectfully submitted,



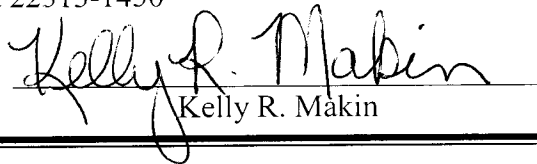
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## **IX. CLAIMS APPENDIX**

1. (Cancelled)

2. (Withdrawn) A method as recited in claim 9 wherein generating a reverse direction signal comprises generating a reverse direction from a shift lever.

3. (Withdrawn) A method as recited in claim 9 wherein generating a reverse direction signal comprises generating a reverse direction from a push button.

4. (Withdrawn) A method as recited in claim 9 wherein generating a reverse direction signal comprises generating a reverse direction from a transmission controller.

5. (Withdrawn) A method as recited in claim 9 wherein generating a reverse direction signal comprises generating a reverse direction from a wheel speed sensor.

6. (Withdrawn) A method as recited in claim 9 wherein applying brake-steer comprises applying at least one brake at a first wheel to reduce a vehicle turning radius.

7. (Withdrawn) A method of controlling an automotive vehicle comprising: generating a reverse direction signal corresponding to a reverse direction of the vehicle; and

applying brake-steer in response to the reverse direction signal by applying an increased drive torque to a second wheel relative to a first wheel.

8. (Withdrawn) A method as recited in claim 9 wherein applying brake-steer comprises applying brake-steer to a front wheel.



9. (Withdrawn) A method of controlling an automotive vehicle comprising: generating a reverse direction signal corresponding to a reverse direction of the vehicle; and

applying brake-steer in response to the reverse direction signal by proportioning brake steer between a front wheel and a rear wheel.

10.(Withdrawn) A method as recited in claim 9 wherein proportioning comprises proportioning between the front and rear wheel in response to a transfer case mode.

11.(Withdrawn) A method as recited in claim 9 further comprising determining a steering wheel angle and wherein applying brake-steer comprises applying brake-steer in response to the reverse direction signal and steering wheel angle.

12.(Withdrawn)A method of controlling an automotive vehicle comprising: determining a yaw rate;

generating a reverse direction signal corresponding to a reverse direction of the vehicle; and

applying brake-steer in response to the reverse direction signal and wherein applying brake-steer comprises applying brake-steer in response to the reverse direction signal and said yaw rate.

13.(Withdrawn)A method of controlling an automotive vehicle comprising: determining a steering wheel torque;

generating a reverse direction signal corresponding to a reverse direction of the vehicle; and

applying brake-steer in response to the reverse direction signal determining a steering wheel torque and wherein applying brake-steer comprises applying brake-steer in response to the reverse direction signal and steering wheel torque.

14.(Withdrawn) A method as recited in claim 9 further comprising determining a steering wheel angle and a vehicle velocity and wherein applying brake-steer comprises applying brake-steer in response to the reverse direction signal and steering wheel angle and vehicle velocity.

15.-26. (Cancelled)

27. (Original) A vehicle comprising:  
a shift lever having a reverse position generating a reverse position signal; and  
a controller coupled to the shift lever, said controller applying brake-steer in response to the reverse position signal.

28. (Original) A vehicle as recited in claim 27 further comprising a transfer case having a transfer case mode, said controller changing the transfer case mode based on brake-steer.

29. (Original) A vehicle as recited in claim 27 wherein said controller is programmed to apply brake-steer by applying a first brake and a second brake to reduce the turning radius of the vehicle.

30. (Original) A vehicle as recited in claim 27 wherein said controller is programmed to apply brake-steer by applying at least one brake at a first wheel to reduce a vehicle turning radius.

31. (Original) A vehicle as recited in claim 27 wherein said controller is programmed to apply brake-steer by applying an increased drive torque to a second wheel relative to the first wheel.

32. (Original) A vehicle as recited in claim 27 further comprising a steering wheel angle sensor generating a steering wheel angle signal, said controller programmed to apply brake-steer in response to the reverse directional signal and the steering wheel angle signal.

**X. EVIDENCE APPENDIX**

None.

**XI. RELATED PROCEEDINGS APPENDIX**

None.